

**ATLAS MINERALS & CHEMICALS, INC.**

**GUIDE SPECIFICATION  
FOR  
ATLAS VTF SYSTEM**

**VITRIFIED TILE  
RED FURNANE SETTING BED  
ATLAS VTF and VTF NOVOLAC GROUT**

## **PART I – GENERAL**

### **1.01 WORK INCLUDED**

- A. Furnish materials, labor and equipment and perform work to install the chemical resistant ATLAS VTF System in the areas designated by the drawings and finish schedules. The system consists of an epoxy setting bed, epoxy or novolac epoxy silica filled grout and vitrified tile.

### **1.02 QUALITY ASSURANCE**

- A. Qualifications
  1. Manufacturer: The manufacturer shall furnish all of the components of the chemical resistant setting bed and grout system.
  2. Testing Agency: A nationally recognized testing laboratory may perform the physical and chemical tests. The testing facility of the manufacturer of the products complies with this requirement.
  3. Contractor: The contractor shall demonstrate that their application personnel have experience installing the products specified in this section. Contractor may be required to provide a 5 ft. (1.5 m.) by 5 ft. (1.5 m.) mock-up sample at the request of the owner or engineer.
- B. Certifications
  1. The manufacturer shall certify that the products have been tested in accordance with the requirements of this specification and that the materials supplied are of the same type, quality and composition as those that were tested.

### **1.03 SUBMITTALS**

- A. Product Data: Submit two copies of the manufacturer's installation instructions prior to delivery to the project site, including published literature on substrate construction and surface preparation.

### **1.04 DELIVERY AND STORAGE**

- A. Delivery of Materials: The setting bed and grout materials shall be delivered to the site in the manufacturer's original unbroken packages or containers labeled with the manufacturer's name and brand.
- B. Storage and Protection: All materials shall be stored in a dry environment in a manner that will prevent damage from water, dampness, and direct sunlight or temperature extremes. Refer to manufacturer's data sheet for special storage instructions.

### **1.05 PROJECT CONDITIONS**

- A. Environmental Conditions
  1. During installation, maintain the temperature of the substrate, air and all materials between 60°F (16°C) and 85°F (29°C).
  2. Do not apply the VTF system when the relative humidity is greater than 75% or the substrate temperature is less than 5°F (3°C) above the dew point.
  3. Shade the work area from direct sunlight during the installation.
  4. Observe the manufacturer's safety instructions including those pertaining to ventilation.
  5. Illuminate the work area during the installation at the same level as will be available at final inspection.

## **1.06 SEQUENCE AND SCHEDULING**

- A. The installation shall not begin until the concrete base is cured and dry as determined by "The Plastic Sheet Method" (ASTM D 4263).
- B. Substrate conditions, preparation and profile shall be in accordance with the manufacturer's recommendations.

## **PART II – PRODUCTS**

### **2.01 ACCEPTABLE MANUFACTURERS**

- A. Setting and Grouting Material:
  1. Atlas Minerals & Chemicals, Inc. Mertztown, PA 19539  
Phone Number 1-800-523-8269.
- B. Tile:
  1. Fully and Semi-Vitrified tile manufacturers meeting the following physical properties:
    - i. Absorption:
      1. Fully Vitrified: 0.1% - 0.3%
      2. Semi-Vitrified: 0.5% - 1.0%
    - ii. Compressive Strength: > 35,000 PSI (241 MPa)
    - iii. Moh Scale Hardness: >7
    - iv. Acid Resistance: Compliant with DIN EN106

### **2.02 MATERIALS**

- A. Setting Bed: Red Furnane Setting Bed, an epoxy resin and silica filled thinset product.
- B. Grout:
  1. ATLAS VTF Grout, an epoxy grout formulated to be installed by power grouting at joint widths as narrow as 5/64" (2 mm).
  2. ATLAS VTF Novolac Grout, a novolac epoxy grout formulated to be installed by power grouting at joint widths as narrow as 5/64" (2 mm).
  3. Chemester Grout, a vinyl ester grout intended for concentrated CIP oxidizing agents such as Sodium Hypochlorite and Nitric Acid. Please note special precautions must be taken when using Chemester Grout. Contact ATLAS technical service for details.
- C. Expansion Joint Compound: Ureklad Joint Sealant, a polyurethane joint sealant.
- D. Tile: Nominal dimensions of 8" x 4" (200 mm x 100 mm) or 4" (100 mm) hexagonal tile in one of the following finishes:
  1. R10 – Smooth
  2. R11 – Slip Resistant
  3. R12 – Anti-Slip

## **PART III – EXECUTION**

### **3.01 INSPECTION**

- A. Examine the surfaces for defects that will adversely affect the execution and quality of the work. Do not proceed with installation until unsatisfactory conditions are corrected.
- B. The surface must be structurally sound, clean, dry and free of all contaminants such as sealers, curing compounds, toppings, oil, dirt, dust and water.

- C. Inspect the substrate for variation from a true plane. The variation shall not exceed 1/8" (3 mm) under a 10' straightedge. When tested with water, sloped concrete must exhibit positive drainage. All portions that do not exhibit positive drainage shall be corrected before proceeding with the installation of the floor. Material used to fill low portions of the floor must have the approval of the setting bed and grout manufacturer. The plane of the slab must meet the above tolerances after surface preparation.
- D. Any penetration of the VTF tile system before or after installation must be approved by the manufacturer of the setting bed and grout materials and / or architect-engineer.

### **3.02 PREPARATION**

- A. Protection
  - 1. The substrate shall be kept free from traffic, liquids and / or dirt while the work is in progress and until the VTF System has cured.
  - 2. No work shall be permitted overhead during the installation and until the VTF System has cured.
- B. Surface Preparation
  - 1. All concrete surfaces should be inspected prior to commencement of tile installation. If laitance is present shot or abrasive grit blasting may be required. A light to medium grit blast finish similar to the profile of 100 to 120 grit sandpaper is suggested. Remove dust, dirt and any other contamination.

### **3.03 INSTALLATION**

- A. Mixing and application of all of the components of the VTF System shall be performed in accordance with the manufacturer's written instructions.
- B. Apply a continuous nominal 1/8" (3 mm) of Red Furnane Setting Bed to the concrete substrate. Tile are placed into the Red Furnane Setting Bed by pressure embedment. Tile should be placed in a manner to achieve a 5/64" (2 mm) to 1/8" (3mm) joint. Allow the Red Furnane Setting Bed to cure sufficiently to support foot traffic.
- C. Apply the grout by the power grouting method outlined on technical data sheets:
  - 1. 3-50PI – ATLAS VTF Grout
  - 2. 3-51PI – ATLAS VTF NOVOLAC Grout
- D. Place Ureklad Joint Sealant at all expansion joint locations:
  - 1. Around columns, piers and all other fixed objects except drains
  - 2. Around the perimeter of each room
  - 3. At the high point of each bay
  - 4. Above all concrete control joints